



US006067374A

United States Patent [19]

[11] Patent Number: **6,067,374**

Fan et al.

[45] Date of Patent: **May 23, 2000**

[54] SEAL DETECTION SYSTEM AND METHOD

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[57] **ABSTRACT**

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A currency detection method that detects seals on currency in order to prevent printing and defeat counterfeiting. Seal patterns are detected. The detector has the ability to identify whether an image contains one or several pre-selected seal patterns. The detection is rotational and shift invariant—a suspect mark can be in any orientation and at any location within a tested image. With the method: a detector is trained off-line with distinctive marks resulting in templates which are generated and recorded for each of the distinctive; sample images bearing suspect marks are received by the detector and the location and orientation of the suspect marks are identified; the templates are rotated and shifted for alignment of the templates to the suspect marks; the templates and the suspects marks are compared to determine whether there is a match. A microprocessor is programmed to become familiarized with a plurality of distinctive marks through training and to analyze and detect seals within tested documents. A memory stores the marks as templates. A scanner may be used with the system during training and detection to capture marks and tested images bearing marks for use by the system. The resulting output can be used by controlled systems, such as copiers and scanners, to suspend further action on documents where counterfeiting is suspected.

[21] Appl. No.: **08/969,491**

[22] Filed: **Nov. 13, 1997**

[51] Int. Cl.⁷ **G06K 9/00**

[52] U.S. Cl. **382/135; 382/137; 382/209**

[58] Field of Search **382/135, 137, 382/209**

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10 Claims, 3 Drawing Sheets

